Nuclear Division News

A Newspaper for Employees of the Nuclear Division, Union Carbide Corporation

Vol. 8, No. 18, September 15, 1977

ORO 77-170

Centrifuge Project Office announced for Oak Ridge; Fee named manager

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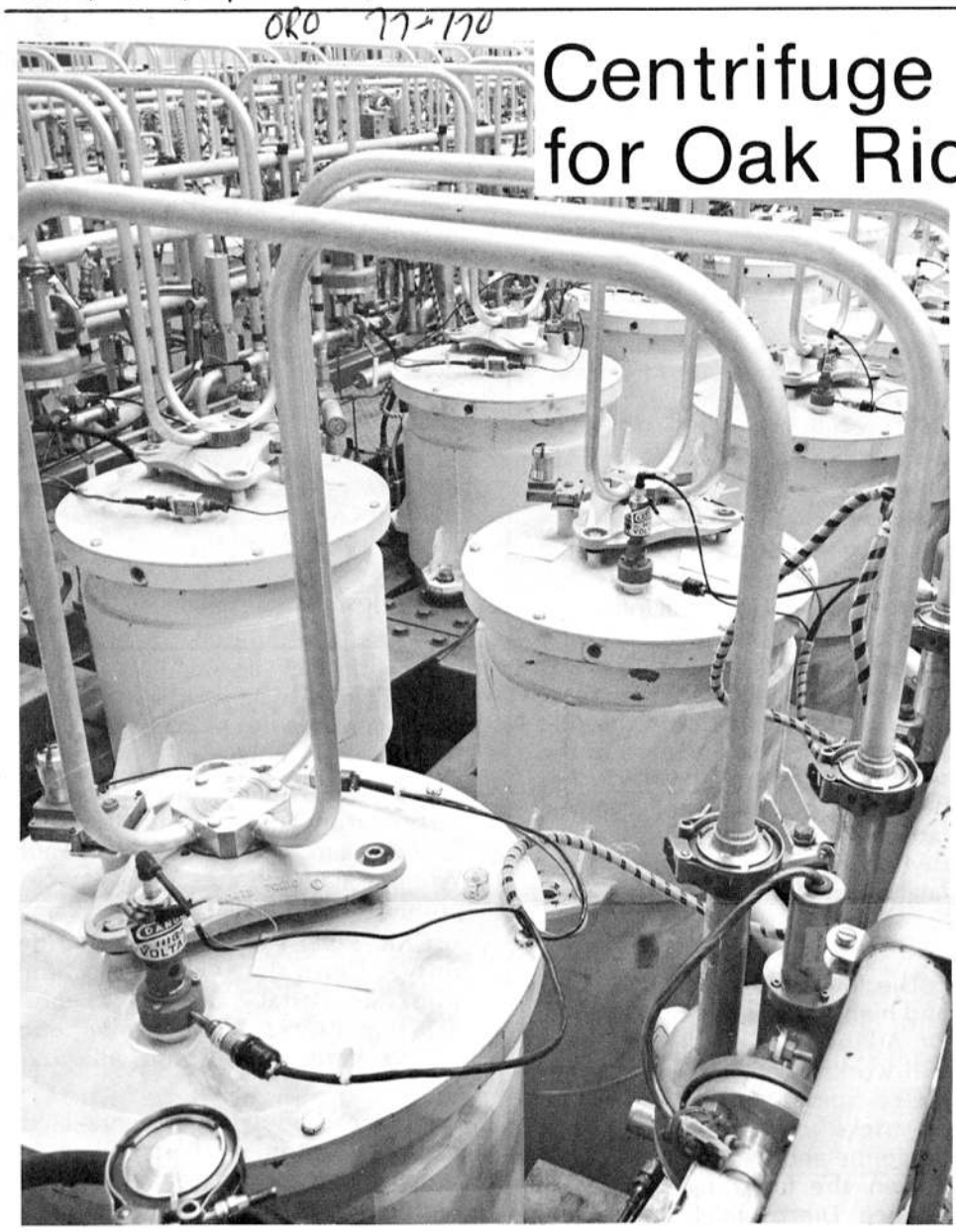
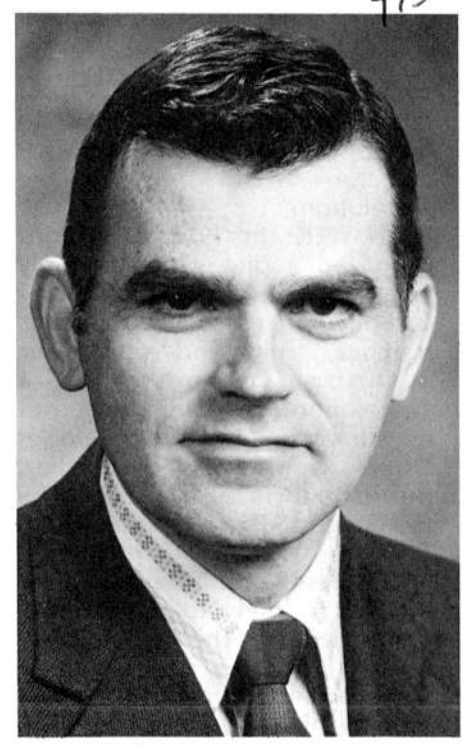


CENTRIFUGE DEVELPOMENT—The centrifuge component test facility is seen at ORGDP. The facility is a pilot cascade with second generation centrifuges. The centrifuge process for enriching uranium is expected to play an important role in future energy research.

Establishment of a new Gas Centrifuge Project Office and the appointment of Gordon G. Fee as Project Manager have been announced by Roger F. Hibbs, President of the Nuclear Division.

Hibbs explained that the new office will have the lead role for the operating contractors in the design, construction and centrifuge-installation phase of the multibillion-dollar uranium enrichment project to be located at Portsmouth, Ohio; and it will be the contact point for ERDA's Oak Ridge Operations Office, which has overall responsibility for the project.

"For almost 20 years, Nuclear Division personnel, together with those of the AiResearch Division of the Garrett Corporation and the University of Virginia, have been developing the gas centrifuge process for the United States," Hibbs explained.



Gordon G. Fee

Broad responsibilities

The Gas Centrifuge Project Office, which will be located in Oak Ridge, will be staffed with personnel from the Nuclear Division, the Goodyear Atomic Corporation and the AiResearch Division of the Garrett Corporation. It will be responsible for the management and/or coordination of the project's requirements for technology development, design criteria development, process design, review of the architect-engineering work, technical system integration studies, reliability assessments, special equipment and material procurement, vendor development, qualification and acceptance of vendor-supplied items, transfer of government-developed technology, and assistance in plant checkout and start-up.

"The vital importance of this project to our nation calls for the continued productive and effective contributions by the many segments of the team of contractors and our own organization who have successfully brought this technology to its present state," Hibbs stated. "The best efforts of the whole ERDA/contractor team are essential to the successful accomplishment of this crucial mission," he said.

In his new position, Fee will report to Paul R. Vanstrum, Nuclear Division vice president for engineering and development.

21 years with Carbide

A native of Sayre, Pa., Fee received his bachelor's degree in physics at Pennsylvania State University and his master's degree in nuclear engineering from the University of Tennessee. He is a recent graduate of Harvard Business School's three-month program for management development.

He began his career with Union Carbide in 1956 at ORGDP, where he played a key role in the mechanical process programs in the gaseous diffusion process, especially those related to development of compressors.

In 1963 he went to Union Carbide's Parma Research Laboratories in Ohio; from 1969 to 1971 he served as the marketing manager of Union Carbide's Environmental Instruments Department in White Plains, N.Y.

He returned to Oak Ridge in 1971 to work on the gas centrifuge development program. Two years later he was named manager of the Light Water Reactor Safety Program at ORNL. In 1974 he became director of what is now ORNL's Engineering Technology Division at the Laboratory.

Fee is married to the former Miriam Olander of Pittsburgh, Pa. They and their two children live at 1064 West Outer Drive, Oak Ridge.

in this issue. . .

Six developments brought laurels to Nuclear Division technicians as *Industrial Research* magazine announces their IR-100 awards for 1976.

These developments were named among the top 100 technical advancements for the year. The developers are being recognized in Chicago tonight. Story on pages 4 and 5.

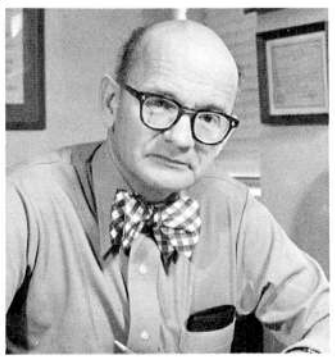
Other features in this issue:

Biomonthly colloquium

The next Bimonthly Colloquium will be held in the Playhouse in Oak Ridge on Monday, September 19, at 7:30 p.m.

Robert W. Brocksen, Aquatic Ecology Section Head, Environmental Sciences Division, will discuss environmental research at ORNL and other laboratories which is focusing on the potential environmental disruptions which could result from the development of new energy technologies such as geothermal, solar, fusion and coal conversion. The title of his talk is *Environmental Impact of New Energy Technologies.*

Following the technical presentation, Laboratory Director Herman Postma will comment on *Implications of DOE Organization* after which he will answer questions on this and other topics of general interest. Those not wishing to ask questions from the floor may submit signed questions in advance to Ted Besmann, Building 4501, ORNL.



medicine chest. . .

Low carb diets

by T. A. Lincoln, M.D.

(Editor's Note: Dr. Lincoln alternates his regular column with "The Medicine Chest," where he answers questions from employees concerning health in general. Questions are handled in strict confidence, as they are handled in our Question Box. Just address your question to "Medicine Chest," NUCLEAR DIVISION NEWS, Building 9704-2, Stop 20, Y-12, or call the news editor in your plant, and give him or her your question on the telephone.)

QUESTION: "Would you comment on the low carbohydrate diet popularized in the hard-to-find book by Dr. Atkins, *The Diet Revolution?*"

ANSWER: In 1972, Dr. Atkins proposed a diet which severely restricted the intake of carbohydrate foods such as sweets, starches, fruits and vegetables. Although proposed as a "revolution", the idea was not new. It was quite similar to *Calories Don't Count*, by H. Taller, published in 1961, and *The Drinking Man's Diet*, published in 1964.

In these diets, carbohydrate intake is restricted to only about 40 grams per day. The carbohydrate content of most people's daily food consumption is 8 to 10 times or even higher than this amount. The claim is made that protein and fat foods can be eaten in unlimited quantities. Eating of fatty, high cholesterol meats, cheeses and fats is encouraged. Presumably a person could consume 4,000 to 5,000 calories per day and still lose weight, providing these calories came almost entirely from protein and fat.

Fat conversion

Supposedly, fat people convert carbohydrate foods rapidly into fat tissue and in an exceptionally efficient manner. According to Dr. Atkins, the fat and protein in foods are "burned up" in metabolic processes and are not stored as fat tissue. The high content of protein and fat in the diet stimulates the production of a "fat mobilizing hormone" which converts stored fat to carbohydrate which is then burned as energy. Dr. Atkins even suggests that the average American diet, which is high in sweets and starches, tends to abnormally stimulate the pancreas to produce extra insulin which, in turn, lowers the blood sugar and makes people hungrier.

Reduce calories

Another mechanism which allegedly makes the low carbohydrate diet work is the production of ketone chemicals, such as acetone or acetoacetic acid, during the metabolism of fat. When a person is on a starvation diet and is burning up fat stores, these ketones appear in the blood and are excreted in the urine. They depress the appetite but also may cause nausea, dehydration and fatigue.

People who follow the instructions and severely limit their intake of carbohydrates usually rapidly lose weight. The "gimmick" in the low carbohydrate diet is that it is extremely difficult to follow and still maintain the same caloric intake. Normally about 40 to 50 percent of the total calories in the average diet comes from carbohydrate foods. It is almost impossible to make a palatable diet that is almost all fat and protein. One has to remember that many basically fat foods are laced with flour, bread and other carbohydrates, so confining oneself to straight meat, fish, poultry, cheese and eggs is difficult. Even milk and ice cream have a modest amount of carbohydrate in them.

The consequence of this selection-of-food difficulty is to reduce the total intake of calories. It is this reduction in calories which really causes the loss of weight. Even when the consumption of calories remains the same, the initial weight loss is due to loss of body water. After a few weeks on the low carbohydrate diet, this water loss gradually disappears. From there on, any success is due to decreased calories.

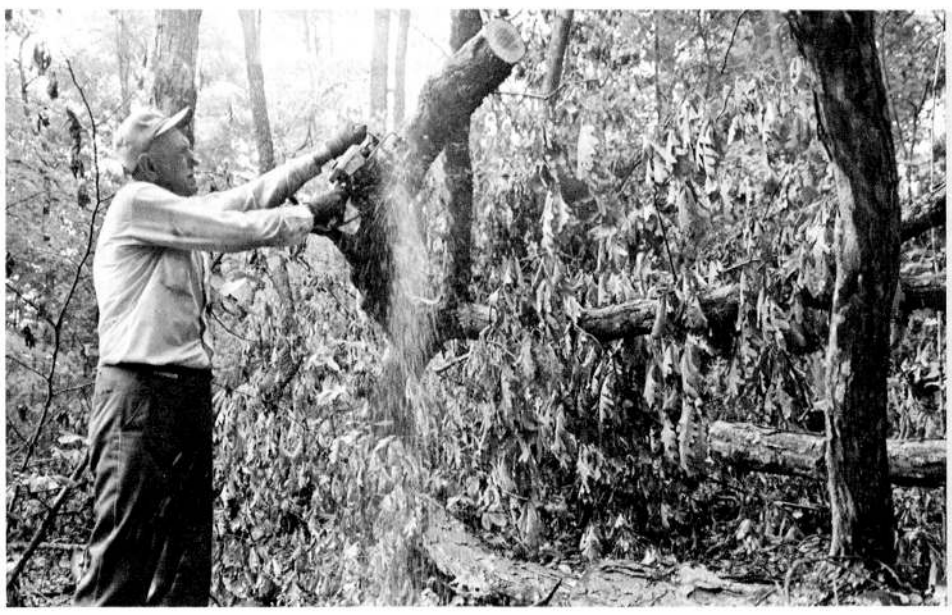
The reason why the low carbohydrate diet is so popular is because the initial loss of weight is often dramatic. Many diets do not give rapid success and patients get discouraged. Dr. Atkins' diet gives quick success but often later fails when a person can't adhere to its rigid requirements or finds its unpleasant side effects unbearable.

The high fat content in Dr. Atkins' diet can be hazardous. It causes an increase in uric acid in the blood and can precipitate an attack of gout. In individuals who have either known or yet undetected coronary heart disease, the excess fat in the diet can cause a great increase in the serum cholesterol level. It has been reported that excessive free fatty acids in the blood can cause rhythm disorders, which could be fatal during a heart attack.

No tricks

The low carbohydrate, high fat and high protein diet proposed by Dr. Atkins is potentially hazardous and works because fewer calories are consumed. Sorry. . . there are no tricks to losing weight—just discipline and patience.

Even the latest fad, the "Last Chance Diet" which involves a modified fast with protein, vitamins and minerals, depends on severe restriction of food intake and does nothing to modify the basic eating habits which are the underlying problem. Crash diets should be undertaken under strict medical supervision and prescribed only when there is an urgent medical reason to lose weight.

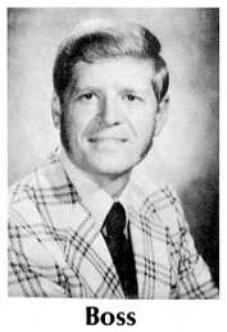


Firewood cutting

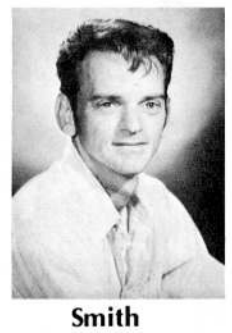
CUTTING IN THE RAIN—Even the rain couldn't keep W. P. Gammell, Karns Community, from participating in a recent firewood cutting on the Oak Ridge reservation. Local citizens will have another opportunity to cut wood for the coming winter on September 16 and 17.

Those interested should meet Friday or Saturday in the parking lot on Bethel Valley Road, east of the main entrance to ORNL. For additional information, contact Dennis Bradburn, extension 3-1266.

Paducah promotions



Boss



Smith

Two promotions have been announced at the Paducah plant. Warren J. Boss has been named a maintenance supervisor and Nicky R. Smith, an inspector.

Boss has a B.S. from Southern Illinois University and joined Union Carbide in January, 1975. He worked previously as a teacher, carpenter and home builder.

A native of Oak Park, Ill., he and his wife, Judith, live at Route 1, Brookport, Ill. They have a son, Derek.

Smith, a native of Murray, Ky., worked as a construction welder prior to joining Union Carbide in June, 1976. He and his wife, Patricia, live at Route 1, Benton, Ky. They have a son, Joshua.

wanted . . .

ORGDP

ONE MEMBER for three-man carpool from Fountain City, to Portal 2, 7:45 a.m.-4:15 p.m. shift. Paul Wright, plant phone 3-9651, home phone Knoxville 688-7428.

CAR POOL driver wanted, ride only, Central Avenue section, Knoxville, Portal 2, 3 or 4, 7:45 a.m.-4:15 p.m. Paul Hamilton, plant phone 3-3750, home phone Knoxville 522-6667.

JOIN car pool from Tacora Hills section, Clinton, to Portals 4 or 5, straight day. G. B. Seaborn, plant phone 3-9379, home phone Clinton 457-9240.

VAN POOL members from West Knoxville area to Portal 2 and 4 and Building K-1007 area, straight day. Charles Hinton, plant phone 3-9548, home phone Knoxville 693-7502.

RIDE from Ball Road, Knox County, to Portal 5, D shift. Jack McKinney, plant phone 3-3476; home phone 690-1888.

ORNL

CAR POOL MEMBERS from Kingston to East Portal, 8-4:30 shift. M. J. Skinner, plant phone 3-6604, home phone in Kingston 376-6894.

CAR POOL MEMBER from Cedar Lane, Inskip Road area of North Knoxville, 8:15-4:45, South Portal. Bill Clark, plant phone 3-1421, home phone 687-6419.

Clogging classes. . .

Beginning clogging classes will start on Wednesday, September 14, for four different age groups at the Highland View Community Center. Interested persons should contact Ralph or Jean Pierce, 483-9382.

Controlled environment measures SO_2 effects

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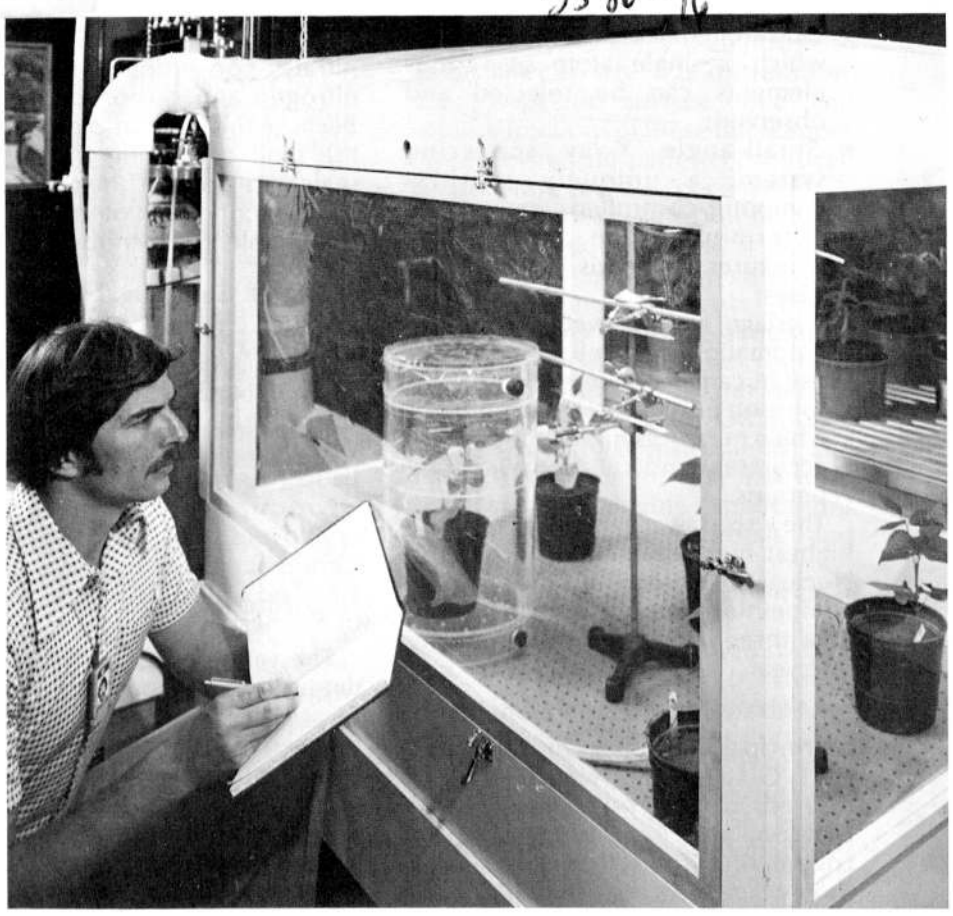


Samuel B. McLaughlin, ORNL environmental scientist who developed the Programmable S02 Exposure System, measures the rate of photosyntheses in kidney bean plants that are exposed to carbonyl sulfide, an air polluting gas from coal-conversion facilities.

A new controlled-environment chamber to measure the effects of sulfur dioxide, one of the principal air-polluting gases from coal combustion, on plant growth processes has been developed by ORNL ecologists.

The device, called a Programmable Sulfur Dioxide Exposure System, produces concentrations of sulfur dioxide for carefully controlled studies of pollutant exposure and effects in a laboratory setting. Containing its own automatic control unit, the system can duplicate natural variations in sulfur dioxide concentrations, and can be programmed to provide exposures with fluctuating levels and durations.

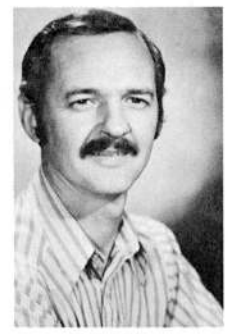
Experiments using the system are aimed at establishing the biologically significant features of and the relationship between pollutant exposure and effects on vegetation. Because it allows the same exposure to be repeated often during a plant's growth cycle, or even on successive days, the system enables environmental scientists to determine the type of response produced, the duration of the response, and how rapidly the plant recovers after it has been exposed.

Samuel B. McLaughlin, Environmental Sciences Division, developed the original version of the system while he was employed by the Tennessee Valley Authority. The current system, which incorporates several new features, was built by Robert Toucey of the Instrumentation and Controls Division. Other ecologists working with the system are David Shriner, Ronald McConathy and Linda Mann.

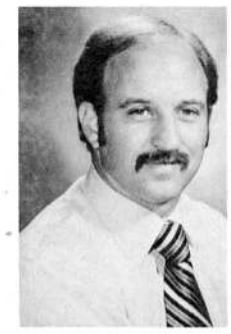
Four promotions listed at Paducah

Carter

Ridge



Shelley



Shuemaker

Four promotions have been announced at the Paducah Gaseous Diffusion Plant. Everett J. Carter has been made a senior inspector; Max L. Ridge and Hugh R. Shelley have been named inspectors; and Scott Shuenaker as been promoted to maintenance supervisor.

Carter has been a maintenance mechanic and welder since joining Union Carbide in 1974. He is a native of Oblong, Ill.

He and his wife, Rita, live on Hayes Avenue, Paducah, with their children, Shannon and Wesley.

Ridge received an associate degree from Draughn's Business College and joined Union Carbide last year. He was previously employed by the G. F. Stout Company. A native of Metropolis, Ill., he now resides there on Adkins Street. He and his wife, Pamela, have four children, Bryan, Thomas, Shireen and Glenn.

Shelley, a native of Cartersville, Ga., is a graduate of Paducah Community College. He worked as an insurance investigator before joining Union Carbide in 1976. He and his wife, Mary, live on Maxon Road, Paducah, with their two sons, Jeremy and Chris.

Shuemaker joined Union Carbide in 1975, formerly working with Biagi-Hannan and Associates. He attended Murray State University. He and his wife, Margaret Ann, live on West Jefferson, Paducah.

question box

If you have questions on company policy, write the Editor, **Nuclear Division News** (or telephone your question in, either to the editor, or to your plant contact). Space limitations may require some editing, but pertinent subject matter will not be omitted. Your name will not be used, and you will be given a personal answer if you so desire.

'Quota' promotions?

QUESTION: I would like to know Carbide's legal justification for promotions based on minority "quotas." Does this not discriminate against qualified employees with long company service who happen to be white women? How do unions avoid this technicality?

ANSWER: There are no promotions based on minority "quotas". Regulations that guide us stipulate that *goals* (not quotas) for promoting minorities and women be set at the percentage of their representation in their job group. For example, if 7.9% of the persons in the Laboratory Technician job group in a given division of an installation are minorities, and 20% are women, a goal is set for 7.9% of the promotions in the Laboratory Technician job group to go to minorities and for 20% of the promotions to go to women.

Setting such a goal does not by any means guarantee that during any given year the percentages of minority and women promotions will exactly match the percentages of their representation in the job group. It simply means that over any reasonable period of time, minorities and women should earn their fair share of the promotions.

Promotions in units represented by unions are achieved through the job bidding systems. If qualifications to perform the work of the job classification are considered equal, the senior employee is given preference.

Mailing lists

QUESTION: Could technical support employees be put on the same mail and distribution lists as monthly employees?

ANSWER: In order to be fully responsive to your question, we would need more specifics regarding the information you desire.

Distribution lists for correspondence, reports, procedures, information, etc., are not formulated on the basis of payroll status or organizational level of the recipient. Rather, they are maintained to ensure that those employees who have work reponsibilities in the area covered by the correspondence are kept up to date with the information necessary for them to accomplish their jobs.

If you have a question regarding the distribution of some particular correspondence, you should direct it to the originator of the material.

Insurance claims

QUESTION: Can something be done about the manner in which our health insurance claims are handled? Many of us believe Blue Cross/Blue Shield deliberately make it difficult, inconvenient and frustrating by delaying or refusing to pay claims.

We are told that Benefit Plans is always willing to help straighten out a problem, but by the time it becomes a problem, it's too late. Could not additional, supportive insurance people be added to our payroll to help take this unnecessary load off employees?

ANSWER: We have made a four-installation survey and have reconfirmed that the vast majority of claims are routine and are handled promptly by the insurance carriers.

In most problem cases, the claim forms are not forwarded promptly by hospitals or doctors offices, the wrong form is used, or the form is not properly completed. In too many cases, the coordination of benefits section is not completed.

Any claims which are not being properly handled by the insurance carrier should be brought to the attention of the Benefit Plans Office as soon as possible.

Additional people in the Benefit Plans Offices are not required and would not prevent the limited number of complaints that arise from time to time.

wanted

ORGDP

JOIN CAR POOL from Northshore Drive, Kingston Pike area of West Knoxville to Portal 2 or 4, 7:45-4:15. Betty Kaminski, plant phone 3-9528.

ORNL

WILL JOIN CAR POOL OR VAN POOL from Claxton Edgemoor Rd., area to East Portal, 8-4:30 shift, straight days. Betty Queen, plant phone 3-6265, home phone 945-2992.

Six technical developments named most signifi

Union Carbide scientists and engineers will be honored tonight for six of the 100 most significant new technical developments of 1977, as judged by the magazine "Industrial Research." Winners of "I-R 100" awards include five ORNL groups and one from the Y-12 Plant.

The following developments will be recognized in ceremonies at the Museum of Science and Industry in Chicago:

- Nitrate recycle and disposal process, for removal of nitrogen-containing contaminants from industrial waste streams;
- Portable centrifugal fast analyzer, a versatile and compact analytical tool for medical diagnostic tests and environmental monitoring;
- One atom detector, a technique by which a single atom of various elements can be selected and observed;
- Small-angle X-ray scattering system, a uniquely sensitive computer-controlled device for determining the microscopic structures of solids, liquids, and gases;
- Cytriage, an improved, completely automatic blood cell separator for use in cancer treatment; and
- Johnson noise power thermometer which measures high temperatures accurately and reliably over long periods.

The six awards represent the highest number ever earned by the Nuclear Division in the annual competition and the first time more than three have been earned in any one year.

3802-77

PORTABLE FAST ANALYZER—John E. Mrochek, left, and Charles D. Scott, both of ORNL, are primary developers of the portable centrifugal fast analyzer for performing medical diagnostic tests and environmental analyses.

Nitrate Recycle and Disposal

Principal developers of the system are E. G. Laggis and Harry C. Francke (retired) of the Y-12 Development Division, and John W. Strohecker, Engineering. The system consists of a three-stage process. The first stage uses a distillation method to recover about 35 percent of the total nitrate in the form of nitric acid which can be re-used in the Plant's operations. The second stage, a crystallization process, recovers another 25 percent in the form of aluminum nitrate when it is re-used.

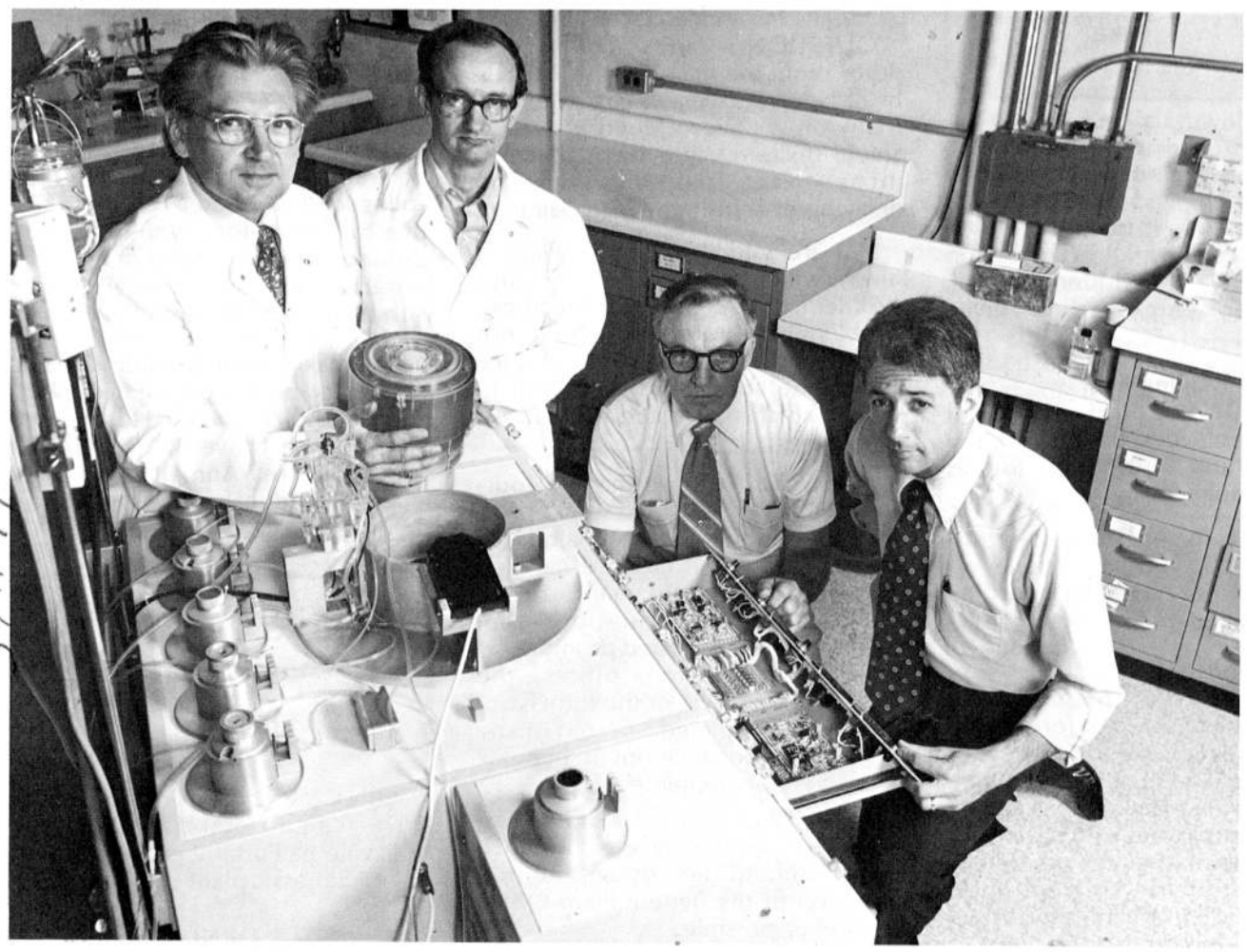
After passing through the first two stages, the remaining nitrate is pumped to a 25,000-gallon tank containing special bacteria cultivated in an organic solution containing trace amounts of phosphate and sulfate. In the absence of oxygen, these bacteria tend to cause the chemical decomposition of the nitrate, converting it to innocuous nitrogen and carbon dioxide gases. Because this is a non-oxygen process, the tank containing the bacteria is sealed to prevent their exposure to air. A second tank of similar capacity is available as a standby unit.

Portable Centrifugal Fast Analyzer

Developers of the analyzer are Charles D. Scott, John E. Mrochek and Richard K. Genung, ORNL's Chemical Technology Division; Wayne F. Johnson and Martin L. Bauer, Instrumentation and Controls Division; and former Carbide employees Carl A. Burtis, National Center for Disease Control, Atlanta, Ga., and Dale G. Lakomy, University of Rochester.

The new system simultaneously determines the composition of up to 16 different chemical and biochemical samples and prints out the results within seconds. It performs routine clinical chemistry measurements (protein, glucose, triglycerides, uric acid) and determines enzyme activities in minute quantities (1 to 10 millionths of a liter) of human serum. The system also can be used to detect environmental pollutants (phosphate, silica and ammonia) or, in a research mode, to investigate very fast chemical or biochemical reactions.

The analyzer weighs only 55 pounds and incorporates a minicomputer to control analytical functions, acquire and process data, and print out results. It may be operated either on alternating current or a battery pack to provide true portability.



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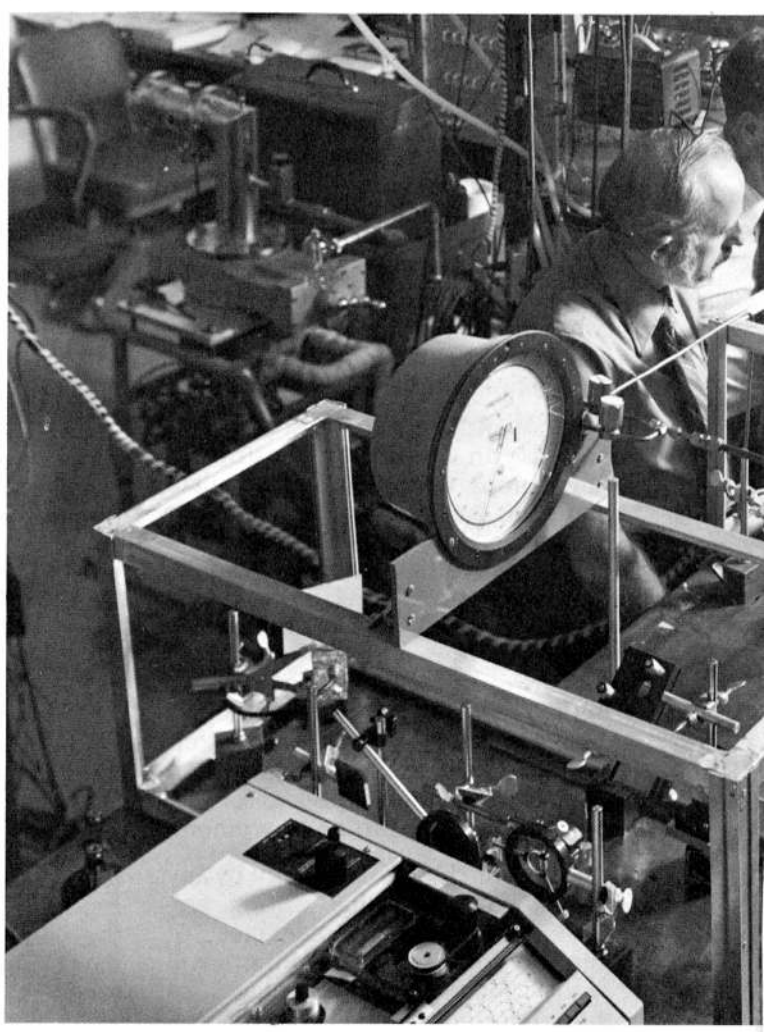
FAST BLOOD CELL SEPARATOR—ORNL researchers who developed the Cytriage, are from left, Carl J. Remenyik, Walter K. Sartory, D. D. Willis and Julian P. Breillatt. The Cytriage, a faster and more efficient blood cell separator, consists of an automatic control system and an improved rotor for collecting white blood cells to be used in cancer treatment.



ONE ATOM DETECTOR—Developers technique for selecting and observing the from left, Jack P. Young and G. Samuel Hu formerly of ORNL, now with Yale Unive

cant in IR-100 awards

3798-77

One Atom Detector

The detector was developed by G. Samuel Hurst, Marvin G. Payne and Edward B. Wagner, ORNL Health and Safety Research Division; Jack P. Young, Analytical Chemistry Division; and Munir Hasan Nayfeh, former Carbide employee, now with Yale University. The laser-based device has achieved the ultimate in analytical sensitivity—detection of one atom and its reactions with other matter. It makes possible "one atom chemistry," in which atoms produced one at a time are allowed to react with other species under the control of the observer.

Light from pulsed dye lasers is used to excite selected populations of atoms contained in gaseous form in a counting device. Every atom, of a selected type, is ionized and then counted with a single electron detector. The method can be applied to nearly half of all known elements.

Potential applications include identifying and measuring chemical pollutants in the environment; detection of recently discovered elements produced only in quantities of a few atoms; detection of such rare events as nuclear reactions from solar neutrinos; and the search for exotic quarks, which represent a possible key to the ultimate structure of matter.

Oak Ridge Small-Angle X-Ray Scattering System

Robert W. Hendricks, ORNL Metals and Ceramics Division, developed the Oak Ridge Small-Angle X-Ray Scattering System (ORSAXS) whose function is to provide information about electron density fluctuations in materials. The instrument enables scientists to determine the size, size distribution, shape, specific surface area and volume fractions of these fluctuations by observing the patterns produced when X-rays strike a specimen.

The instrument is the only machine of its kind equipped with a two-dimension position-sensitive detector and computer-based camera control and data acquisition and analysis systems. The result is greatly increased experimental sensitivity and speed. ORSAXS is faster than similar instruments, and can perform experiments that were not previously possible. Applications include work in materials and polymer science, solid-state physics, chemistry, and the macromolecular and biological sciences.

The machine is being used by Oak Ridge researchers to study: properties of structural materials for use in nuclear power reactors and fusion devices; microporosity in coal; specific surface properties of catalysts; mechanisms of plastic deformation of polymers; kinetics of polymer crystallization; and structural changes in normal and diseased (muscular dystrophy) tendon.

Cytriage

Julian Breillatt, Walter K. Sartory and D. D. Willis, ORNL Biology Division; and Carl J. Remenyik, consultant and professor at the University of Tennessee, developed the Cytriage (for Automated Three-State Centrifugal Leukapheresis System). The automatic control system helps combat life-threatening infections in leukemia patients by

(Please see page 8)

X-RAY SCATTERING SYSTEM—Robert W. Hendricks, ORNL, developed this small angle X-ray scattering system for studying the microscopic structures of solids, liquids and gases. It is the only instrument of its kind equipped with computer-based camera control and data acquisition and analysis systems.

175000

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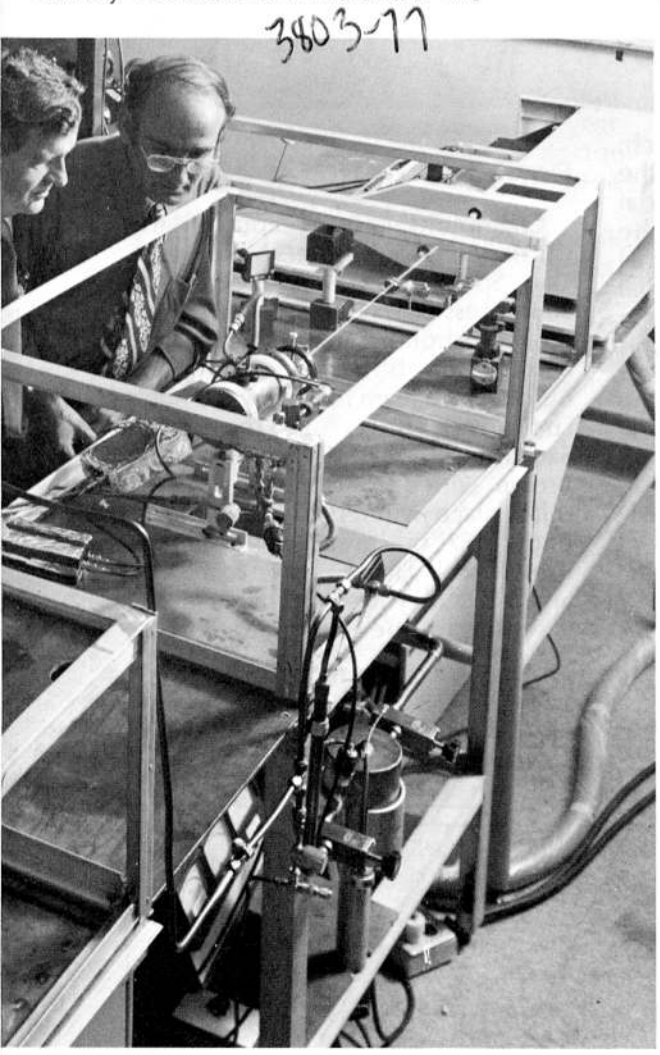
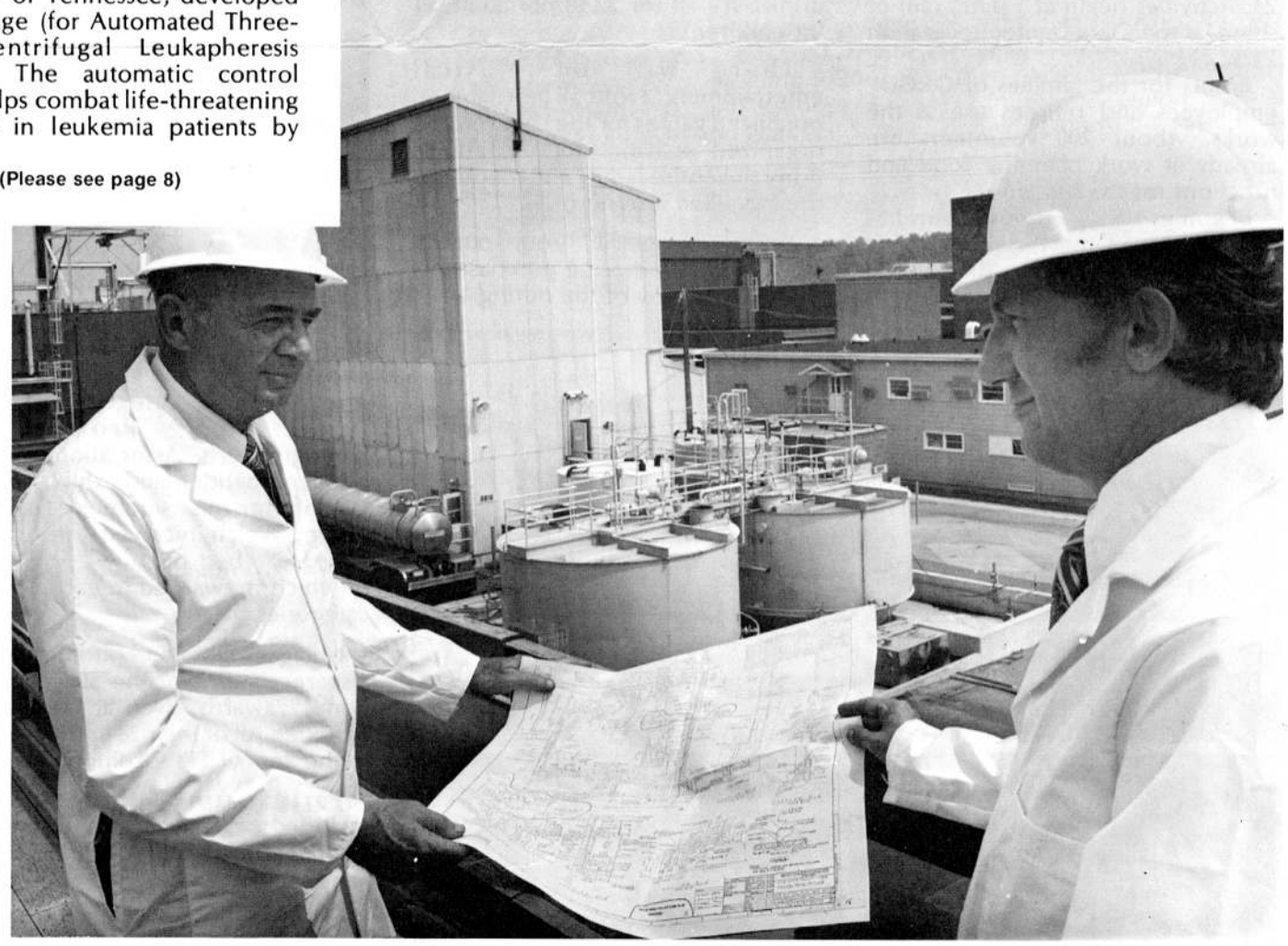


of the one atom detector, a smallest unit of any element, are, rst, ORNL, and Munir H. Nayfeh, sity.



BIODENITRIFICATION FACILITY—John W. Strohecker, left, and E. G. "Mike" Laggis are two key members of the team which developed the new biodenitrification facility at the Y-12 Plant. The three-stage facility, located in the tall metal building and tanks seen in the rear, recovers about 60 percent of the nitrate waste generated at Y-12 and uses special bacteria to decompose the remaining nitrate. Y-12 generates about 2,500,000 pounds of nitrate waste from chemical processing operations per year. Others involved in the development include Forrest E. Clark and Harry C. Francke (both now retired); John D. Watkins, James C. Nook, Chester W. Francis, Rafael B. Bustamante (with Tennessee Technological University); and John M. Napier, project coordinator. Support was also drawn from ORNL's Biology and Chemical Technology Divisions.

recreationotes

GOOD GAME—Tom Hines, left, of the Paducah Plant's Engineering Division shakes hands with an opponent after a match played during the recent Carbide-Westvaco tennis tournament. Several singles and doubles matches were slated for the tournament with Paducah netmen taking six of the nine matches.

Nuclear Division News

UNION CARBIDE CORPORATION
NUCLEAR DIVISION
Office
Post Office Box Y
Oak Ridge, Tenn. 37830

EDITOR
James A. Young, Ext. 3-7100

ASSOCIATE EDITOR
Karen L. Cromer, Ext. 3-6266

ORGDP
Doug Carter, Ext. 3-3434

PADUCAH
Keith Bryant, Bell 369

UNION CARBIDE

Member, INTERNATIONAL ASSOCIATION OF BUSINESS COMMUNICATORS

ORGDP barbecue-hootenanny planned September 24

The 14th Barbecue-Hootenanny for ORGDP employees and their families is set for Saturday, September 24. Activities begin at 1 p.m., rain or shine, at the Clark Center Recreation Park.

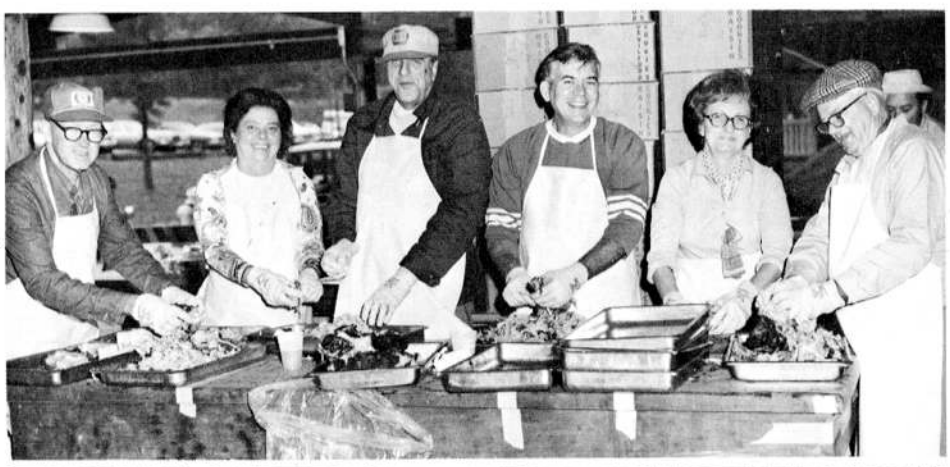
Events for the families of ORGDP employees and retirees are in the works. About 200 volunteers are already at work planning food and functions for the big affair.

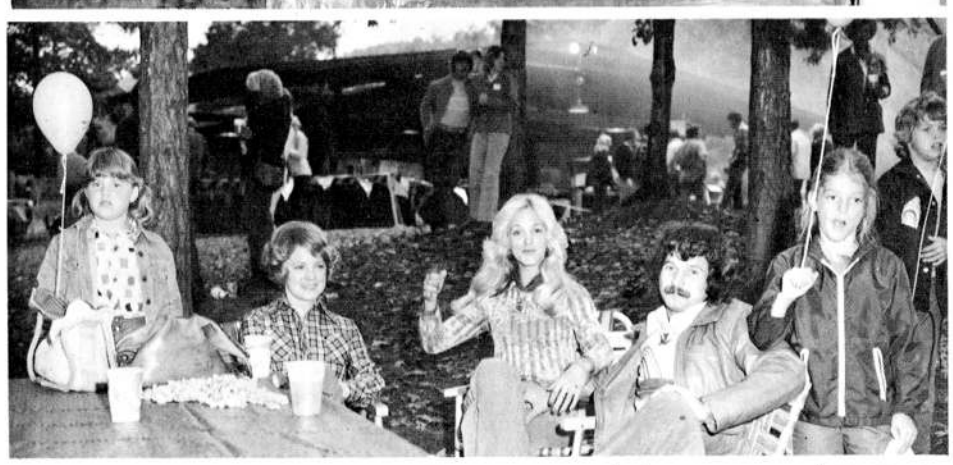
Begun in 1965, the hootenanny has grown through the years. Last year's big party had more than 1,000 attending.

The menu includes the popular barbecue (prepared on the grounds), cole slaw, potato chips and various drinks. It's all for $2.50 per adult, $1 for children.

There will be musical entertainment, a softball tournament, organized games for the children and organized activities for the adults. Bring the entire family and friends for the fun-filled afternoon.

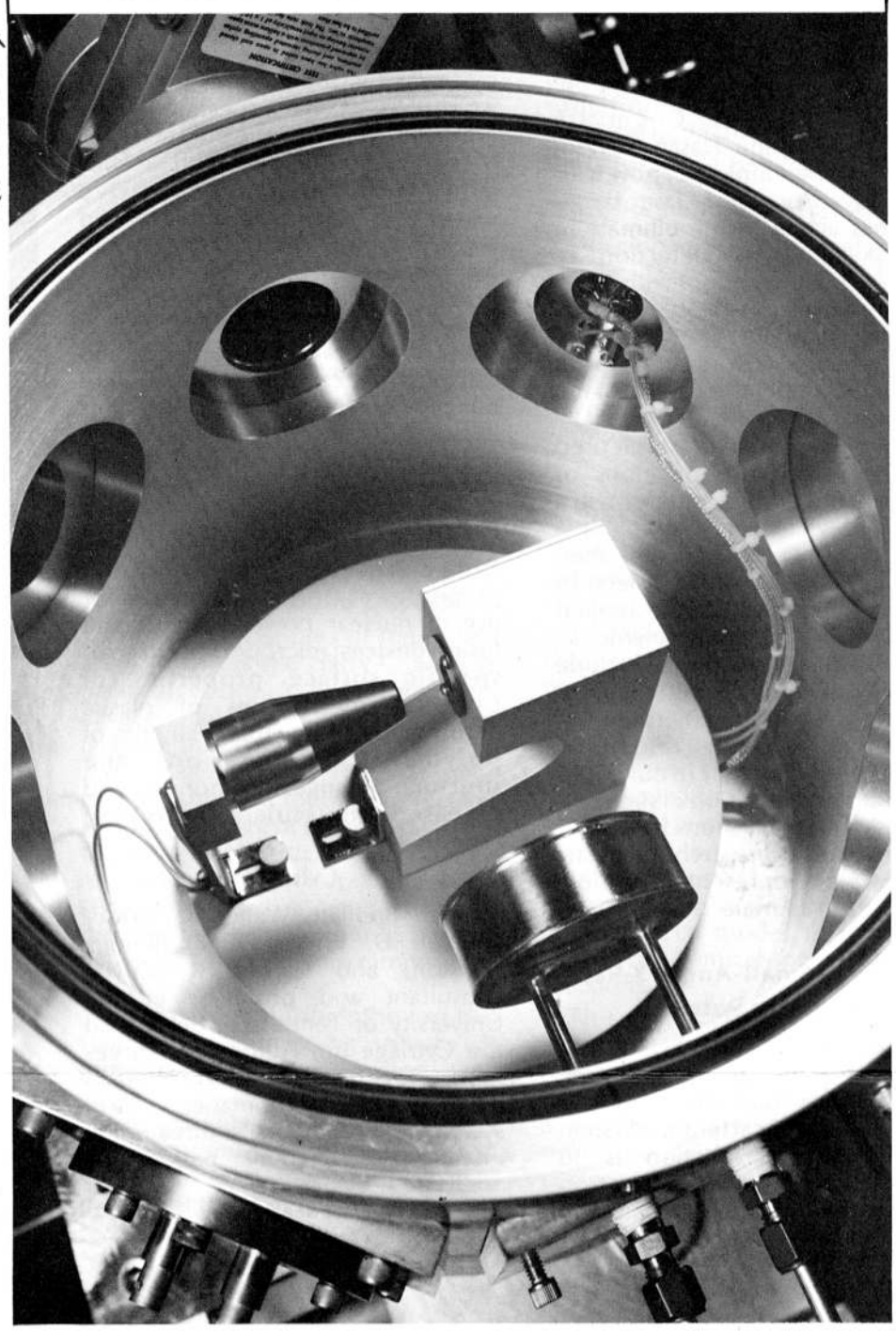
Tickets are on sale throughout the plant, and also may be purchased at the park the day of the outing.





BARBECUE-HOOTENANNY—Fall is just around the corner, and ORGDP folks are setting big plans already for their annual Barbecue-Hootenanny, set for Saturday, September 24 at the Clark Center Recreation Park. Tickets are $2.50 for adults, $1 for children.

Photographers clean up at annual TPPA exhibit



BEST OF SHOW—Gary Welch, ORNL Photography, entered the above print in the industrial photography category of the Tennessee Professional Photographer's Association annual print competition and exhibit held in Gatlinburg this summer. For this photo, Welch received the highest award—a "best of show"—only one of which is awarded in each of nine categories.

Nuclear Division photographers also received 7 of the 30 "court of honor" awards given at the awards banquet. All of their 28 entries placed in the annual TPPA competition.

Participating photographers included: Welch, John Thompson, Charles Tucker, Terry Marlar, David Fahey, Jim Richmond and Ward Bandy.

Paducah golf...

Championship team captain Marty Curtlis led his supporters Mike Flood, Gary Spear and David Sanderson to an impressive six under par, 65 which took top honors at the Paxton Park Mixed Scrabble recently. Their number two team following the heels included Betty Lester, Max Sacharnoski, Matt Piercy and Betty Brown, with a five under par 66. The third place winners charted a four under, 67 on great plays by Phil Brown, Bob Lichtenberg, Bob Perry and Velva Blayney. Another scrabble is set toward the end of September.

next issue...

The next issue will be dated September 29. The deadline is September 21.

safety scoreboard

Time worked without a lost-time accident through September 8:

Paducah	48 Days	743,397 Man-Hours
ORGDP	132 Days	4,336,800 Man-Hours
Y-12 Plant	205 Days	6,238,000 Man-Hours
ORNL	135 Days	2,959,017 Man-Pours

about people . . .

R. Keith Kibbe, Office of Waste Isolation, recently was certified by the state of California in nuclear engineering by California in 1967. Kibbe is project manager for geological repository engineering studies in support of the Generic Environmental Impact Statement on Waste Management. Obtaining the state professional engineering license is based upon passing extensive examinations and accumulating practical engineering qualifications as well. California is one of the first states to establish nuclear engineering as a specific licensing category.

Kibbe holds a B.S. degree from Montana State University and an M.S. from the University of Southern California. He and his wife, Judy, who works in the Employee Relations Division at ORNL, live at 1804 Oak Hill Drive, Kingston.

anniversaries

ORNL

35 YEARS

2667-74

Trauger

Donald B. Trauger, associate director for nuclear and engineering technologies at ORNL, joined the Manhattan District Project at Columbia University in 1942, and continued working on the project when he moved to Oak Ridge in 1944.

He received an A.B. in physics from Nebraska Wesleyan University and did graduate work in physics and engineering at Columbia. This year he was awarded an honorary doctor of science degree from Tennessee Wesleyan College in Athens.

Trauger has worked on the Oak Ridge Gaseous Diffusion Project, researched irradiation of nuclear fuels at ORNL, and served as director of ORNL's Gas Cooled Reactor Program. He and his wife, Elaine, live in Oak Ridge.

30 YEARS

Eugene Lamb, Operations; Dorothy M. Soard, Industrial Safety; Alma J. Soard, Health and Safety; Charles C. Shelton, Laboratory Protection; Mary V. Long, Biology; Martha H. Jones, Biology; Charles C. Rains, Finance and Materials; William A. Bell Jr., Chemical Technology; Edward C. Hendren, Chemical Technology; Temple A. Love, Neutron Physics; Robert R. Rickard, Analytical Chemistry; and Bruce H. Webster, Engineering.

25 YEARS

Samuel S. Hurt III, James F. Ellis, A. J. Smith, Victor A. Emert, Charles W. Collins, Betty F. Maskewitz, Charles F. Smith, Marion B. Hoy, William R. Whitson, Norman E. Hinkle, Lloyd L. Brown, Paul A. Gnadt, Neal W. McCoy, Julian H. Williams, Richard E. Peden, Agnes D. Denton and Eldridge E. Smith.

20 YEARS

James H. Hawkins Jr., Raymond A. Popp, Herbert C. Wilson, Lawrence B. Shappert, Bobbie E. Fox, James S. Wike and James N. Luton Jr.

PADUCAH

25 YEARS

Lawrence C. Schumaker, Gus D. Yarbrough, James E. Orazine, William J. McGee, Charles W. Burdette, Charles E. Carrigan, Gene E. Henderson and Fred L. Lewis.

20 YEARS

Rebecca B. Bugg and Billy G. Cronin.

ORGDP

30 YEARS

William T. Mulltins, Isotope Analysis Department; and Frank E. Templeton, Development Maintenance.

25 YEARS

Frank L. Stout, Fred W. Walker, Ada A. Miller, Joe M. Smith, Edward M. Bordes and Helmon C. Smith.

20 YEARS

Alice O. McIntyre and George J. Kidd Jr.

Y-12 PLANT

30 YEARS

Roy B. Blankenship, Guard Department; Daniel J. Cooley, Special Services; and Ralph F. Graham, Fabrication Division.

25 YEARS

Joe G. Harmon, Ernest L. Croley, Herman F. Wyrick, Lee E. Richardson, Wilbur N. Proffitt, Peggy L. May, John H. McNeill, James C. Morton, James P. McMillin, James T. Swaggerty Jr. and James R. Pelfrey.

20 YEARS

John D. Emch, Jay Coates, Bobbie L. Skeen, Donald Neely, Douglas L. Frazier, Art D. Schulte and Robert K. Gibbs.

patents . . .

To Fletcher L. Moore, ORNL, for "Removal of Zn or Cd and Cyanide from Cyanide Electroplating Wastes."

To Dan W. Koerner, K. Von Cook, Horace T. Murrin Jr. and Robert A. Cunningham Jr., all of ORNL, for "Ultrasonic Probe System for the Bore-Side Inspection of Tubes and Welds Therein."

Wisner, Schneider promoted

174938 174939

Wisner

Schneider

Joel D. Wisner has been promoted to an engineer in Y-12's Engineering Department.

A native of Seattle, Wash., he has a B.S. degree in mechanical engineering from New Mexico State University. He lives at 716 Broome Road, Knoxville.

* * *

Paul G. Schneider has been named supervisor of mechanical, physical and vacuum properties in the Development Division, announced David L. Mason, director of Instrumentation and Characterization Development Department in Y-12. Schneider replaces James H. Rowan, who is on a two-year loan to quality assurance development.

A native of Oak Park, Ill., Schneider has a B.S. in physics from Wake Forest University and a master's from Emory University. He has been with Union Carbide eight years.

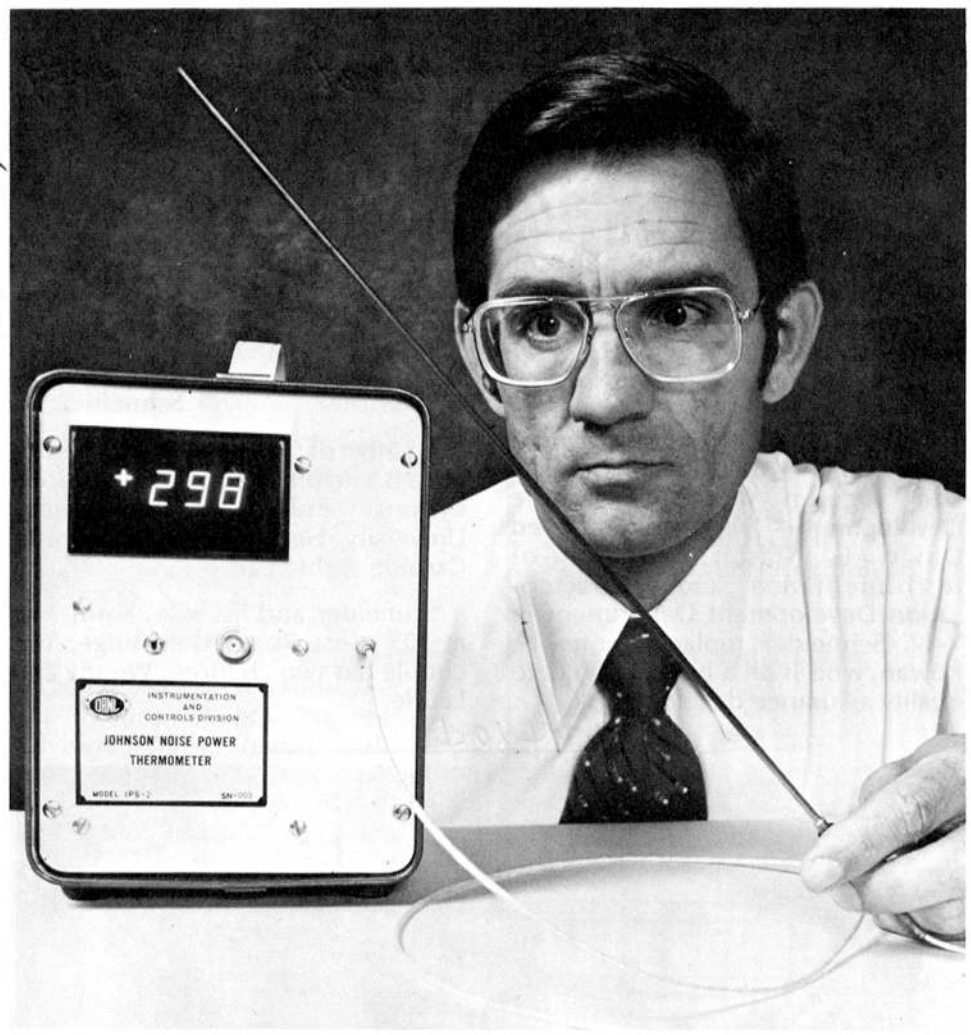
Schneider and his wife, Karin, live at 103 Moss Road, Oak Ridge. The couple has two children, Wendy and Laurie.

174804

Y-12 SAFETY ACHIEVEMENTS—Plaques for Y-12's outstanding safety performance for 1976 are on display this week in the Beta 2 lunchroom. Next week they go to 9206 and 9201-1. The first week of October they will be in the canteen area of Building 9720-6, and then to 9771. Mickey Woody, assemblyman, left, and George T. Pyle admire the Union Carbide Corporation, ERDA and National Safety Council citations.

NEW IAC OFFICERS—Information Analysis Center (IAC) Forum officers for 1977 are, left to right: Helga B. Gerstner, president; Betty McGill, secretary; and Don J. Wilkes, vice-president. The Forum is open to members of all information centers throughout ORNL for the exchange of ideas, interests and problems.

3800-77



JOHNSON NOISE POWER THERMOMETER—The Johnson noise power thermometer can measure temperatures up to 1,500 degrees Celsius with accuracy and reliability for long periods. ORNL's T. Vaughn Blalock, one of the developers of the system, holds the sensor probe as it records room temperature. Casimer J. Borkowski is co-developer.

IR-100 development awards

(Continued from page 5)

increasing the speed and efficiency with which granulocytes, the white blood cells that destroy bacteria and yeast that invade the body, can be collected from healthy donors.

Patients with leukemia frequently die from infections resulting from a deficiency of granulocytes. Transfusion of these cells can usually reverse the course of the infection. Although blood cell separators have been in existence since 1967, most of them are manually controlled and do not yield a sufficient number of cells for effective treatment. The automatic controlled system collects three times as many cells per hour as manually operated units.

In addition to increasing the number of granulocytes available for transfusion, the system reduces the time a donor must spend on the machine. It also includes a unique three-stage separation rotor (centrifuge bowl) whose design allows for optimum separation conditions.

Johnson Noise Power Thermometer

Developers of the thermometer are Casimer J. Borkowski, ORNL Instrumentation and Controls Division, and T. Vaughn Blalock, consultant and professor at the University of Tennessee. The thermometer can measure temperatures up to 1,500 degrees Celsius (2,700 degrees F.) with accuracy and reliability for long periods of time. Accuracy is not affected by aging, chemical or radiation effects on the temperature sensor, or by high pressures or magnetic fields.

The system determines temperature by measuring the thermal noise power produced by thermal agitation of conduction electrons in a sensing resistor. Since behavior of the device is independent of the sensor material or its past history, it may be used in situations where other types of thermometers (thermocouples or resistance thermometers) lose their effectiveness.

Among its applications are measuring temperatures of nuclear reactor fuels to determine the effects of neutron radiation on the fuel's conductivity, melting point and structure; and in industrial processes where temperatures, accurate within one percent or better, are needed to assure process efficiency, safety and product reproducibility.

Fashion show-card party. . .

The Oak Ridge Chapter of the National Secretaries Association is sponsoring a fashion show-card party Thursday, October 6. It will begin at 7:30 p.m. at the Oak Ridge Country Club.

Lizz Harris, chairman of the event, has announced that proceeds will be used for chapter scholarships and other educational activities for the NSA group. Tickets may be obtained from any NSA member, or at the door October 6.

Five promotions at ORGDP

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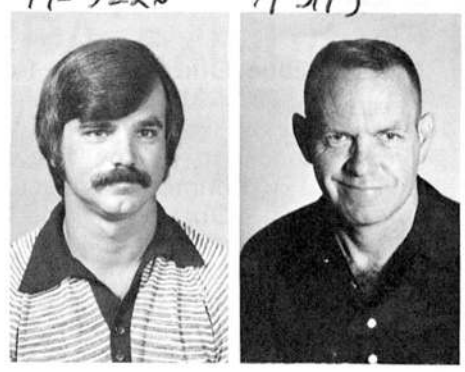
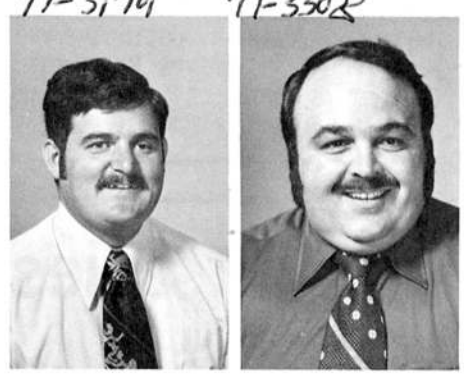


Collins Dillon

77-3179 77-3302



Fritts Hayes

Five promotions have been announced at ORGDP. Randall E. Collins and James D. Dillon have been named supervisors in Barrier Manufacturing; Dallas R. Fritts a supervisor in Fabrication and Maintenance; Melvin H. Hayes a supervisor in Operations; and Richard W. Moss a staff engineer in Fabrication and Maintenance.

Collins, a native of Chattanooga, spent most of his life in Oak Ridge. He worked as a machinist at Y-12 for five years before transferring to ORGDP in 1974.

Collins and his wife, Angela, live at 107 Maryville Circle, Oak Ridge. The couple has two children, April and Kevin.

Dillon was born in Virginia, but grew up in Oak Ridge. He worked for the city of Oak Ridge before joining Union Carbide more than two years ago.

He and his wife, Reba, live at 304 Alder Court, Oliver Springs. They have three children, Jeffrey, Elizabeth and Stactia.

Fritts is a native of Harriman. He came to ORGDP almost two years ago.

He and his wife, Rita Jean, live at Route 2, Rockwood. The couple has three children, Gregory, Angela and Bradley.

Hayes is a native of Jacksonville, Fla. He has a B.A. degree from Carson-Newman College, and joined Union Carbide in 1974. Prior to that time he worked with Burlington Industries, Allied Chemical and the Tennessee Department of Public Welfare.

Hayes and his wife, Wanda, live at 1181 Circle Drive, Kingston. They have a son, Robert.

PH77-3178

Moss

Moss was born in Western Kentucky and attended Paducah Junior College. He joined ORGDP last year after working with Modine Manufacturing Co., Pan American World Airways, and at the Paducah Gaseous Diffusion Plant.

He and his wife, Sue, have a daughter Melanie. They live at 117 West Newkirk Lane, Oak Ridge.

Secretary seminar set for October 1

The Oak Ridge Chapter of the National Secretaries Association will sponsor a seminar, "You Are Your Potential," for secretaries and other office personnel on Saturday, October 1. The program will begin at 8 a.m. at the Sheraton Inn-executive Park, Knoxville. A $13 registration fee includes buffet breakfast.

The program will be conducted by Miriam Uni, a consultant in Human Behavior and Motivation. She is on the faculty of University College of Northwestern University where she teaches Interpersonal Communications.

Following breakfast, 11 Oak Ridge area secretaries will be presented with Certified Professional Secretary certificates by Phyllis Archer, CPS, president of the Tennessee Division of NSA.

Registration forms may be obtained from Olyne Kappelmann, Y-12, 3-7369; Lindy Norris, ORNL, 3-6643; Dessie Stewart, ORGDP, 3-3748; or Bettye Pope, 3-7766, seminar coordinator.

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